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ABSTRACT

A paraprofessional was trained to provide an individualized reading, math, and language arts program to a 9-year-old educable mentally retarded boy in a regular classroom. A 5-month period of reading sessions with the classroom teacher emphasizing oral reading and comprehension contingent on word acquisition and imitation training for word acquisition produced an improvement of .8 reading levels. The child completed the first five books in the Palo Alto language program which stresses immediate correction of written work and imitation training for oral responses. Progress on the math program was measured at an increase of two grade levels. (CL)

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IMPLEMENTING AN INDIVIDUALIZED DATA BASED MODEL OF EDUCATION TO KEEP A NINE YEAR OLD BOY IN HIS REGULAR, PUBLIC SCHOOL CLASSROOM

by

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SAMPLE CASE STUDY

Case Study: Implementing an individualized data based model of education to keep a nine year old boy in his regular public school classroom.

by

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Discription of Child and Problem:

When Larry first entered public school, he was not toilet trained and was sent home after the first two weeks. He entered first grade a year later. After extensive psychological testing, it was concluded that Larry (age 9) was functioning mentally and physically three years below his age mates; he was labeled educable mentally retarded and was recommended for placement in a day school for retarded children. Larry's deficits included some spasticity and deformities in his legs which contributed to an unusual functional gait. He was receiving medication for petit mal seizures. However, Larry's parents refused special school placement and requested that Larry continue to attend his neighborhood school which was just a few hundred feet from his home. Larry walked to school without assistance. Larry's teacher was aware of the results of the test and knew the problems Larry's previous teachers had encountered. The CT and the teacher obtained entry level measures in reading, language arts, and math which indicated that Larry was reading on a pre-primer level and functioning on a firstgrade level in math. Since Larry's deficits were so severe, the CT and teacher wrote a proposal in cooperation

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with the principal and the superintendent (Marcy, 1973)

The proposal* requested state funding for a paraprofessional, and learning materials. The proposal described the reading, math, and language arts objectives to be achieved by Larry by the end of two years of service, and the materials, measurement systems and teaching/learning procedures to be used to evaluate Larry's progress. The proposal detailed the roles of the classroom teacher (Figure 1), the paraprofessional (Figure 2), the training procedures to be implemented by the consulting teacher (Figure 3), and the CT's role (Figure 4).

Implementation of the Plan:

Upon acceptance of the proposal and the granting of state funds, Larry's parents were notified of the plans and signed a letter of permission for services to be implemented. Training procedures for the paraprofessional were implemented. After the assigned readings and written units were completed, the consulting teacher provided social reinforcement and encouragement as the paraprofessional discussed the content of the assignments. They also planned teaching strategies to increase Larry's learning rate. The CT and paraprofessional role-played the learning

*Without the funding assistance provided by Richard Branting, Special Education Consultant, Home-based Tutoring Program, and the administrative support of Mr. John Roberts, Principal, Lincoln Elementary School, and Mr. Keith Hall, Superintendent, Addison Northeast Supervisory District, this service could not have been provided.

situation. First, the paraprofessional played the part of the learner while the CT presented the instructions, recorded responses, and provided the specified consequences. Then the paraprofessional performed these activities while the CT acted as the learner. When the paraprofessional performed the specified activities with 100% accuracy according to the written instructions, and when the data recorded on the learner's responses were between 90-100% reliable, the paraprofessional began the procedures in the classroom with Larry. Daily contact was provided by the CT to review the paraprofessional's progress in implementing the procedures.

Gradually the consulting teacher asked the classroom teacher to provide her attention and feedback for the paraprofessional's classroom activities. After one month of training, the paraprofessional and the CT met on a weekly basis for approximately one hour to inspect Larry's daily progress and to adjust the teaching learning procedures when the data indicated.

The classroom teacher met with Larry daily for a 30 minute reading session using the Ginn 360. Her instructional program applied two reinforcement principles:* 1) Imitation training for word acquisition. Social reinforcement was provided for correct word recognition. For errors, the teacher told Larry the word and Larry imitated her. 2) Oral reading and comprehension contingent on word acquisition. When Larry learned all the words for a story, he was allowed to read the story to the teacher. Larry was praised for reading correctly. When Larry misread a word, the teacher

*For a more complete description of these procedures and data evaluating the effects, see Burdett and Fox (1974).

said the word, Larry imitated her and continued reading. The teacher asked Larry five comprehension questions when he completed the reading assignment. Larry was praised for correct answers. When Larry gave an incorrect answer, the teacher told him the correct answer. Figure 5 shows Larry's increased rate

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Figure 5 goes about here

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of achieving the minimum objectives in the Cinn 360 reading program during the teacher's one-to-one instructional program. Larry's entry point showed him to be at the 1.5 grade level equivalent. Over a five month period, Larry completed materials at the 2.3 grade level equivalent.

The paraprofessional implemented the Palo Alto language program during a 30 minute daily session. The instructional program applied two reinforcement principles: 1) Immediate correction of written work. As Larry completed each page in the Palo Alto workbook, the paraprofessional marked "C's" on correct answers. Incorrect answers were re-worked until they were correct. 2) Imitation training for oral responses. When Larry orally read from the Palo Alto readers, the paraprofessional praised correct reading. When Larry misread a word, the paraprofessional told him the word and Larry repeated it. Figure 6 shows Larry's accelerated rate of acquiring the minimum objectives in the Palo Alto program. Over a five month period, Larry completed the first five books in the Palo Alto series.

Figure 6 goes about here

The paraprofessional's math program applied the reinforcement principle of immediate correction of written work. When Larry completed an assignment, the paraprofessional marked "C's" on correct answers. Figure 7 shows Larry's accelerated rate of achieving minimum math objectives. His entry level measures were at the 1.5 grade level equivalent before the program was implemented. After three months, Larry's accelerated rate of achieving math objectives was above 3.5 grade level equivalent, which placed him on target for achieving objectives at a rate fast enough to insure acquisition of all minimum math objectives by the end of six years in school.

Figure 7 goes about here

Although Larry's rate of acquiring the minimum math objectives increased dramatically, the paraprofessional's measures showed that Larry's rate of completing quizzes on basic addition facts (sums less than 19) was too slow to meet the stated criterion. The paraprofessional applied the principles of shaping (gradually increasing criteria) and contingent reinforcement to increase Larry's rate for correct answers on the quizzes, (providing pieces of candy for meeting each criterion).

Figure 8 goes about here

Figure 8 shows that Larry's entry level rate of 15 correct answers in 5 minutes increased to 25 correct when the criteria

was established at 25 correct. When the criterion was again increased (to 30), Larry's average rate increased to 32.

Discussion:

In developing a program for Larry, the CT asked for the participation of all professionals before the service began. This provided each person the opportunity to specify his role at his entry level. The proposal also publicly outlined the consequences and procedures to be employed for the learner and the paraprofessional: the uses of antecedent stimuli (in the form of readings, and modeling by the CT) and consequences (in the form of CT and teacher praise and money).

The consulting teacher used shaping procedures too gradually increase the paraprofessionals duties as she was trained to take over more of the teaching/learning procedures.

As Larry progressed, the principal also came in contact with the parents' positive comments concerning what his school was doing for Larry. The CT had more opportunities to interact with the principal concerning Larry's improvement and to provide him with feedback on his valuable participation. In addition, the teacher was provided positive feedback on her important teaching/learning procedures by the principal, the consulting teacher and the parents. Thus every person's "entry level" changed--Larry's, the teacher's, the paraprofessional's, the principal's, and the consulting teacher's.

Although these procedures proved effective for all participating persons including Larry, assurance of continued progress

for Larry is still tentative since Larry continue to have daily petit mal seizures at home. Larry's continued progress will be assured as long as the carefully planned program in reading and language arts is continued and accelerated.

Figure Captions

Figure 1 The teacher's role in Larry's program

Figure 2 The paraprofessional's role

Figure 3 The training program for the paraprofessional

Figure 4 The Consulting Teacher's role in Larry's progress

Figure 5 Results of teacher's one-to-one instructional program for reading

Figure 6 Results of paraprofessionals' one-to-one instructional program for language arts

Figure 7 Results of one-to-one instruction in math

Figure 8 Results of program to accelerate rate for basic math facts

TEACHER'S ROLE

1. Provide half hour one-to-one reading sessions
2. Assist aide in preparing math materials
3. Monitor child's behavior throughout the day
4. Provide feedback to child and aide
5. Meet with the C.T. to evaluate and revise learning programs
6. Meet with parents

Figure 1

PARAPROFESSIONAL'S ROLE

1. Provide services to referred child in reading, language arts, penmanship, math, and social behaviors
2. Tutor on one-to-one basis
3. Prepare necessary teaching/learning materials and maintain an ample supply of same
4. Observe and measure classroom behaviors with 90-100% reliability.
5. Demonstrate ability to measure behavior in each of the following ways:
   A. Tally or even recording
   B. Continuous time
   C. Time sample measures
   D. Direct measurement of permanent products
6. Retrieve and collate behavioral data
7. Maintain daily graphs
8. Manage a class of 25 children
9. Learn how to reinforce contingently
10. Attend training sessions and conferences with C.T.
11. Keep teacher, C.T. and principal informed of student's progress
12. Will not change any procedure without consent of C.T.
13. Maintain cheerful disposition at all times

Figure 2

PARAPROFESSIONAL TRAINING PROCEDURES

Weeks 1 & 2	1/2 Hr. Tutoring (E.G., Palo Alto)
	1/2 Hr. Managing class
	2 Hrs. Studying (20 Hrs.)
Weeks 3 & 4	1/2 Hr. Tutoring (Palo Alto)
	1/2 Hr. Classroom management
	1/2 Hr. Tutoring (Addison-Wesley)
	1-1/2 Hr. Studying (15 Hrs.)
Week 5	Assume full schedule

Figure 3

CONSULTING TEACHER'S ROLE

1. Training paraprofessional
2. Coordinate learning programs
3. Monitor child's progress
4. Evaluate and revise learning programs based on child's performance
5. Provide assistance, materials, support, and encouragement

Figure 4

Fig. 3

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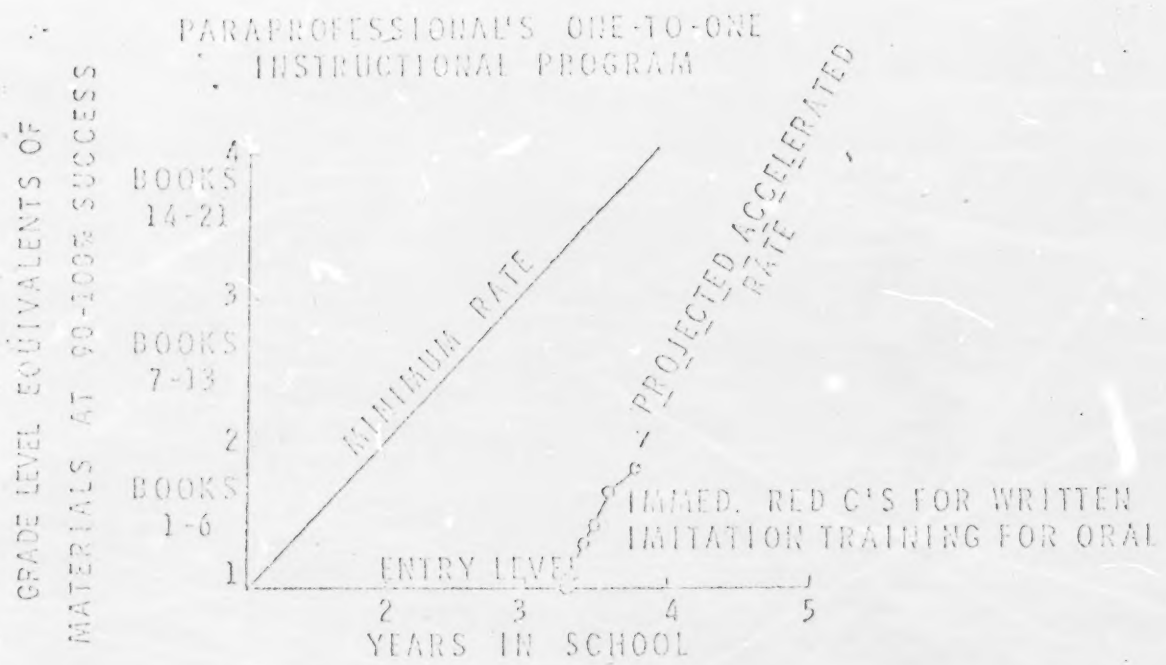
PARAPROFESSIONAL'S ONE-TO-ONE
INSTRUCTIONAL PROGRAM
GRADE LEVEL EQUIVALENTS OF
MATERIALS AT 90-100% SUCCESS
BOOKS
14-21
BOOKS
7-13
BOOKS
1-6
MINIMUM RATE
PROJECTED ACCELERATED
RATE
IMMED. RED C'S FOR WRITTEN
IMITATION TRAINING FOR ORAL
ENTRY LEVEL
1
2
3
4
5
YEARS IN SCHOOL

Fig. 6

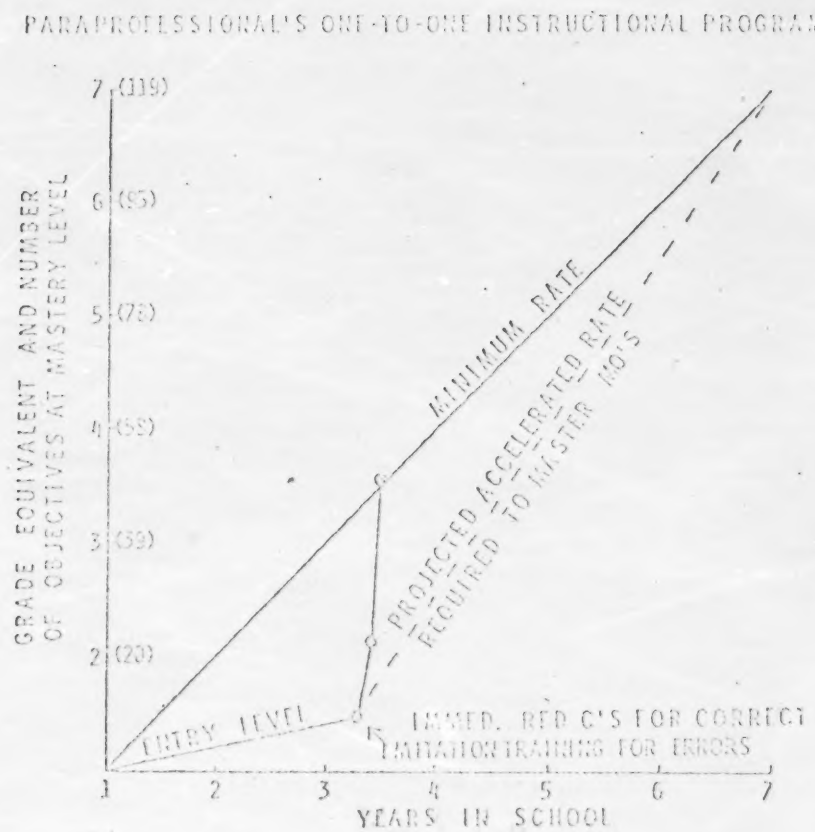
PARAPROFESSIONAL'S ONE-TO-ONE INSTRUCTIONAL PROGRAM
GRADE EQUIVALENT AND NUMBER
OF OBJECTIVES AT MASTERY LEVEL
7 (119)
6 (95)
5 (78)
4 (59)
3 (39)
2 (20)
MINIMUM RATE
PROJECTED ACCELERATED RATE
REQUIRED TO MASTER MO'S
ENTRY LEVEL
IMMED. RED C'S FOR CORRECT
IMITATION TRAINING FOR ERRORS
1
2
3
4
5
6
7
YEARS IN SCHOOL

Fig. 7

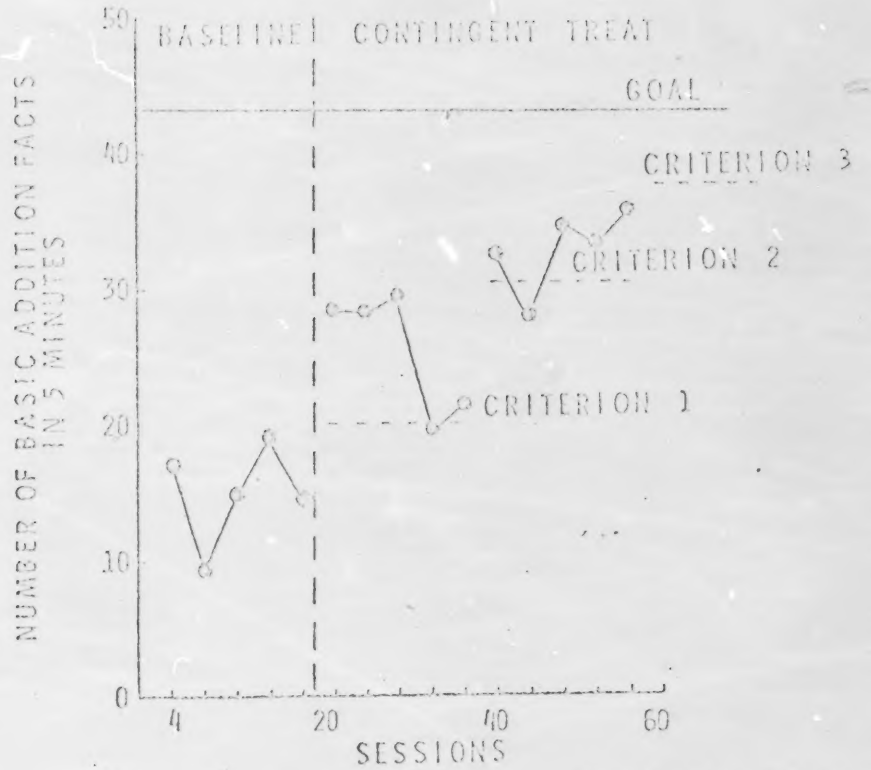
BASELINE
CONTINGENT TREAT
GOAL
CRITERION 3
CRITERION 2
CRITERION 1
NUMBER OF BASIC ADDITION FACTS IN 5 MINUTES
50
40
30
20
10
0
4
20
40
60
SESSIONS
(EACH POINT REPRESENTS AVERAGE OF 4 DAYS)

Fig 8

REFERENCES

Burdett, C.S. and Fox, W.L. Measurement and evaluation of reading behaviors: Word recognition, oral reading, and comprehension. Austin, Texas: Austin Writers Group, 1973.

Marcy, C.B. Plan to help PL15 (Larry) achieve at or above the minimum rate by the end of his sixth year in school. Unpublished manuscript. Bristol, Vermont: Addison Northeast Supervisory Union, October, 1973.